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ABSTRACT

To investigate whether low school attendance rates in Guatemala (about 35% of primary school aged children do not attend) are due primarily to the need for children in low income families to contribute to family income or child care and other housekeeping tasks, time use data were collected in 4 rural villages from mothers of 369 children, aged 7-14. Participant families had an average 1975 per capita income of $91 and lived in 1- or 2-room houses with mud floors in villages of 500-1,000 inhabitants, located between 2 and 4 hours by bus from Guatemala City; roughly 35% of household heads were able to read and write. Male school non-attenders worked more than school attenders, but one half of the 11-14 year old and one quarter of the 7-10 year old male school attenders worked between 1 and 6 hours; 13% of the non-attender 11-14 year old males reported doing no work and another 9% doing less than 3 hours; and about 22% of the non-attender girls did neither child care nor meal preparation, and little or no income-earning or housekeeping work. However, analyses did not clarify cause and effect: whether a child is not in school because he has to work or whether he is working because he is not in school. Suggested policy interventions would reduce work constraints and increase motivation to send children to school. (NEC)

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CHILDREN'S ECONOMIC ACTIVITIES AND PRIMARY SCHOOL ATTENDANCE IN RURAL GUATEMALA

by

Carol A. M. Clark

April 1981

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PREFACE

This paper documents an exploratory analysis of school attendance and time use in rural Guatemala. It is one of the first attempts to analyze school attendance using time use data from a developing country. The paper will interest: a) researchers who will look at similar issues and b) education and development planners who are involved in program implementation.

The data were provided by the Institute for Nutrition in Central America and Panama (INCAP)and by The Rand Corporation.

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I. INTRODUCTION

In Guatemala about 35% of all primary school aged children are not attending school. The reason frequently given for these low attendance rates in Guatemala as well as in other developing countries is that children in low income families must contribute to family income or are needed for child care and other housekeeping tasks. However, what I saw when I was in Guatemala made me begin to wonder how much work children actually do and if in all cases it is enough to keep them out of school.

In order to begin to explore this I examined time use data to compare the work of rural Guatemalan children who were attending primary school with the work of children who were not attending primary school. Briefly, the results showed that for some children, especially older boys, income-earning and housekeeping activities may reduce school attendance but for many children, these activities fail to fully explain non-attendance.

In this paper I will describe briefly the study. The second and third sections describe the methodology and sample; the fourth discusses the results. The fifth suggests policy conclusions and further research questions related to child development and time use which emerged from this analysis.

II. METHODOLOGY

Essentially I wanted to look at the following questions: Do children spend so much time in income earning and housekeeping activities that they do not have time for school? Do children who do not attend school spend more time in income earning and housekeeping activities than children who do attend school? Time use data were useful for looking at these questions.

The time use data were collected in 4 rural villages in eastern Guatemala by the Institute for Nutrition of Central America and Panama (INCAP). The survey had been designed by researchers at INCAP in collaboration with The Rand Corporation. The original time-use survey consisted of four rounds of interviews administered at three month intervals. For my analyses I used the third round col-

lected in September 1975. The respondents were women who were either pregnant or had at least one child younger than seven years old at the time of the study. The sample for these analyses consists of the primary school aged children (aged 7-14) of these women.

The data were collected by asking the mother how long she and each of her children had participated on the preceding day in the activities indicated in Figure 1. For these analyses I constructed a summary measure of the total amount of time spent in both housekeeping activity and income earning activity. Housekeeping activity includes the items you see under A in Figure 1, and income-earning activity includes the items you see under C in Figure 1. Then I compared, by means of X^2 tests, the amount of time spent in these work activities by attenders and non-attenders.

Boys and girls were considered separately since in these villages the appropriate activities for boys and girls differ. The age groups 7-10 years and 11-14 years also were considered separately, since in these villages children tend to take on greater responsibility at about ten or eleven years of age.

I limited the work to a simple exploratory analysis for several reasons: First, I was doing it on a small computer in Guatemala. Second, it was a small part of a much larger multivariate study of the determinants of school attendance. Third, I did it at a time when we had very little experience with time use data from developing countries in general and no one had done anything with this particular data set.

Before using the data I checked for outliers and did selected consistency checks. The data in general were consistent with expectations based on norms about appropriate activity for girls and boys of different ages in this setting and about activity on Sundays and week days.

III. SAMPLE AND VILLAGE DESCRIPTION

Before highlighting the major results let me tell you a little about the sample. The children lived in four small (500-1000 inhabitants) eastern Guatemalan villages located between 2 and 4 hours by

Figure 1. Activities Included in Guatemalan Time-Use Questionnaire

A. Housekeeping Activity

1. Shopping (going to the local store, to the nearest bigger town, to Guatemala City, or to the mill in the village to have the corn ground)
2. Carrying water
3. Collecting wood
4. Washing clothes away from the home

B. Other Housekeeping

1. Childcare[1]
2. Meal preparation for the family[1]

C. Income-Earning Work

1. Agricultural production: sowing, reaping, animal care, etc.
2. Work away from home: washing clothes, carrying water, etc.

D. School attendance or other training

[1]Only three responses categories were used regarding these activities: whether the activity was done in the morning, the afternoon or all day. This is unfortunate since child care may be a frequent activity for children in developing countries.

bus from Guatemala City. The villages are typical of Spanish-speaking subsistence farming villages. Families live in one or two room adobe or bamboo houses with mud floors. Average per capita income in 1975 was about $91. Most of it was obtained from subsistence farming of corn and beans. Roughly 35% of the household heads could read and write.

At the time of the study each village had its own school with all six grades available. The schools were two or three room buildings. Frequently, children had to share desks and chairs. Three of the schools lacked pictures on the walls, books, pencils, paper, etc. As indicated in Table 1 only about 58% of the primary school aged children (7-14) were attending school at the time of the study.

IV. RESULTS

We turn now to the results.

1. First, I discovered that this data set was not adequate for looking at how work responsibilities of girls relate to their school attendance. This is because more than 2/3 of the girls reported meal preparation and child care for which I had no specific time data.[2] During pretesting women said they could not specify the amount of time they cared for children or prepared meals because they do it all day. Therefore length of time for meal preparation and child care was not asked in the actual survey.

As an aside, I think that at least in some cultures we can obtain this sort of data. My subsequent experience in pretesting a different time use questionnaire showed that Guatemalan Indian women (as opposed to Ladino Spanish-speaking) could report how long they actually attended to their children and how long they just watched them as a secondary activity while they went about their other activity.

At any rate, the lack of data on time for meal preparation and child care was unfortunate because it restricted our ability to draw firmer conclusions from these analyses. The best I was able to do was to look at the proportion of non-attending girls who reported no child care or meal preparation to see if some girls who were reported to not have done these

[2] Another difficulty here is the question of simultaneous activities. Child care often occurs at the same time that one is engaged in other activities.

TABLE 1: PROPORTION OF CHILDREN WHO ATTENDED SCHOOL DURING THE WEEK BY AGE AND SEX

Age	Female		Male		Total	
	Proportion	N	Proportion	N	Proportion	N
7-10	.57	105	.54	110	.55	215
11-14	.49	73	.60	81	.57	154
Total N	.54	178	.57	191	.55	369

activities still did not attend school. I found that about 12% of the non-attending girls were reported doing no activity and another 10% of the non-attending girls did some work but spent less than three hours at it.

2. Since boys do far less child care and almost no meal preparation I was able to look more carefully at the relation of boys' activities to school attendance. These results are presented in Table 2. Table 2 shows the categories of amounts of time spent by boys in both income-earning and housekeeping activities on the vertical axis and the age groups by non-attender/attender status on the horizontal axis.

We find that some of these children work as much as 7 hours or more. Older boys tend to work longer hours than younger boys. School non-attenders tend to work more than school attenders but one half of the 11-14 year olds and one quarter of the 7-10 year old school attenders are reported to work between 1 and 6 hours and a few are reported working even longer hours. Though it is not shown here, most of the work done by older boys and about half of the work done by younger boys is agricultural production.

3. Focusing more specifically on the differences between attenders and non-attenders we find significant differences in the distribution of attenders and non-attenders across the time categories. For both the 7-10 and 11-14 year olds greater proportions of school non-attenders are reported to have worked more hours than school attenders.

The 11-14 year old boys provide stronger evidence than the 7-10 year olds that work responsibilities may compete with school attendance. About 66% of the 11-14 year old non-attenders work more than 7 hours and 96% of the attenders worked less than 7 hours.

Nevertheless there are several curious things in the results which make it hard to accept entirely the notion that work responsibilities compete with school attendance. First, though the X^2 is significant for 7-10 year olds, 43% of the non-attenders are reported to have done no work at all and another 18% are reported working less than 3 hours.

We also find for 11-14 year olds that 13% of the non-attenders are reported doing no work and another 9% doing less than 3 hours. In addition, as indicated above about 22% of the non-attending girls did neither child care nor meal preparation and <u>little</u> or <u>no</u> income-earning or housekeeping work.

Table 2

PROPORTION OF BOYS WHO DID INCOME EARNING OR HOUSEKEEPING ACTIVITY BY AGE AND SCHOOL ATTENDANCE

	Boys Aged 7-10			Boys Aged 11-14		
	Non-Attenders	Attenders		Non-Attenders	Attenders	
No Time	.43	.44		.13	.35	
Up to an Hour	.08	.17	.92	0	.12	.96
1-3 Hours	.10	.24		.09	.24	
4-6 Hours	.12	.07		.13	.24	
7+ Hours	.27	.08		.66	.04	
N	51	59		32	49	
X^2	11.309			37.215		
df	4			4		
Prob	.0233			.0001		
Total Mean (minutes)	204	95		429	132	
Mean Participants[a]	359	169		491	203	

[a]Calculated for only those who reported at least 10 minutes in the activity.

There are several possible explanations for our inability to account for non-attendance by reference to the child's work activity. First, we may not have information in this data set on the types of activities these non-attending "non-workers" actually did. In addition, respondents may have tended to forget or to underestimate the work activity of their children. Finally, parents may choose not to send their children to school for some reason other than the need for the child's work.

4. Finally, there is one other aspect of this analysis which suggests we must be cautious in drawing conclusions. The analyses tell us nothing about cause and effect. We do not know whether a child is not in school because he has to work or whether he is working because he is not in school. Based on the evidence that some non-attenders work little or not at all and that some children are able to coordinate work and school I suspect that some of the relation we see between work and school is due to the fact that a child who is not in school has to do something with his time.

The results raise enough doubts about the role that children's work plays in the school attendance decisions to suggest that we must be sensitive to the possibility that some children may have to work. However, we must continue to seek more complete explanations for school non-attendance.

V. CONCLUSIONS

Policy Interventions

The results suggest several policy interventions for increasing school attendance. They fall into two categories - one being to reduce the work constraints, the other being to increase motivation to send children to school.

Reduce Work Constraints: These analyses have not allowed us to reject the hypothesis that some primary school aged children may have to work rather than attend school. This suggests the need for programs: a) to reduce the necessity of children's work, and b) to make

the school schedule more compatible with their work schedule. Examples of programs to reduce the necessity of children's work might include: a) introduction of appropriate agricultural technology which could free up older boys or b) provision of community day care facilities for preschool aged siblings which might free up girls.

One way of making the school schedule more compatible with the work schedules in these villages would be to hold classes in the afternoon and evenings and to schedule vacations during the planting and harvest season. We might even want to reduce the length of the school day if children's work is tiring.

Clearly, we would need to design the interventions and adapt the school schedule to the characteristics of children's work in the particular culture. Increased knowledge of the amount of time children spend in various activities and when these activities must be performed would enable us to suggest appropriate interventions for adapting the school schedule to children's work schedules and reducing the need for children's work.

Motivation: If we assume that we had sufficient data in this analysis on all the boys' activities, then the inability of these analyses to account for the activities of all school non-attenders and the fact that some school attenders were doing considerable work, suggest that work is not the only obstacle to school attendance. We need to learn how parents perceive school and work.

It may be that in these subsistence settings school plays only a secondary role in preparing the child for his eventual adult role. The curriculum has little to do with the reality of their poverty. Work may be seen as an apprenticeship and may be viewed as better preparation for adulthood than school. Finally there is little upward mobility in the society so most of these subsistence families have little hope of improving their lot even with better education. They simply may not push children to attend school; work, in some cases, may simply be a polite or acceptable excuse.

If this is the case, then we need very different policies and programs for increasing primary school attendance. It may require extensive adaptation of the curriculum to meet the needs of the rural poor

and special training of teachers who will work with them. Even these steps might not be successful without broader social changes involving increased occupational and social mobility.

Research Questions Using Time Use Data

The following questions pertinent to child development and time use in developing countries come to mind.

1. What are the developmental consequences for the child of the type and extent of activities children in developing countries engage in? For example, from these analyses we learn that young children are involved in child care and agricultural production which require a fair amount of responsibility and/or some skill and knowledge. What sorts of social and problem-solving skills do children learn as a result of caring for younger siblings or of participating in income-earning activity?
2. A related question is: do these activities reduce their active play time? If so, what sorts of social and problem-solving skills do they not learn as a result of reduced play time?
3. What are the consequences for a child's development when older siblings aged 7-14 are responsible for some of his care? If these practices continue, what sorts of programs are needed to help 7-14 year old children be better care-takers?
4. Is time not devoted to school devoted to required or necessary activities? If so, are the obstacles really total time required or is it a problem of scheduling? If not, what are the real obstacles to school attendance in a given setting?

These analyses have served as a preliminary exploratory analysis of the questions raised in question 4. Data limitations peculiar to the particular data set and to time use data in general have prevented us from more fully understanding the possible trade-off between work and school that children in these rural villages in Guatemala may have to make. We have seen that in some instances work responsibilities may make school attendance more difficult. However, we have been unable to account

for the time of all non-attenders either because we have insufficient data or possibly because work is not the only obstacle to school attendance. To understand school attendance, we need further analyses incorporating a variety of other variables in addition to more complete time use data. In my opinion time use analyses can help in our efforts to understand school attendance. It can also identify areas for which other research strategies might be useful and important.

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